

REMARKS

This Amendment, filed in reply to the Office Action dated July 19, 2007, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

As a preliminary matter, the Examiner objects to claims 22, 23 and 34. Applicant hereinabove amends the claims as suggested by the Examiner.

In order to expedite prosecution of this case, Applicant hereinabove cancels claims 1-6, 11-13, 16-21, 24, 27-28, 31-32, 35-36 and 38. This obviates the Section 102 rejection over Suzuki, the section 103 rejection over Suzuki and Saito, the Section 103 rejection over Suzuki and Aosaki, the Section 103 rejection over Suzuki and Schantz, and the Section 103 rejection over Suzuki and Ui. Applicant hereinabove rewrites claims 14-15 and 25 in independent form.

Applicant further respectfully submits the following arguments in traversal of the prior art rejections.

Claims 7, 9, 10, 29, 37 and 39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. '361) in view of Takanaka (U.S. Patent No. '855). Applicant respectfully traverses this rejection.

The Examiner correctly concedes that Suzuki does not teach a density measuring means measuring density when a head is moved backwards and performing correction when a head is moved forward. Detailed Action at page 11. The Examiner cites Takanaka at col. 20, lines 13-20 as teaching this feature. However, the cited portion teaches correction in the backward direction. Col. 20, lines 13-15. This is the complete opposite of claim 7 which describes

correction in the forward direction. To the extent that correction in the main scan direction is taught by Takanaka, this is done by eliminating the reading in the backward direction. Col. 20, lines 16-20. However, elimination of reading in the backward direction would eradicate one of the claimed features. Therefore, the cited portions of Takanaka actually teach away from claim 7 or teach the complete opposite of claim 7. Claim 7 should be deemed patentable for at least these reasons. Claims 9, 10, 29, 37 and 39 are patentable based on their dependency.

Claims 8, 10 and 30 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. '361) in view of Noyes (U.S. Patent No. '022). The Examiner correctly concedes that Suzuki fails to teach a second density measuring means for measuring density backwards. Detailed Action, page 14. The Examiner cites Noyes at cols. 16-17 and 86 to make up for this deficiency.

As an initial matter, the prior filed amendment cited several deficiencies in the sensors cited by the Examiner. To the extent that cols. 16-17 even mention a photosensor, there is no indication of any movement of when the detector becomes operational. Col. 86 mentions a smear detector, but again does not indicate the direction of scan in which the detection becomes operational. The cited portion of Noyes refers to a dot density per scan line, implying that it is the cumulative density that is analyzed. In particular, Noyes teaches that if there is an insufficient amount of ink deposited, then the chances of smear are not important and thus the line feed can continue without any correction for smear that would cause a delay in the printing. See Fig. 73, S7306. This further suggests that the detection is done on the forward movement, as

the backward movement will cause smear (which Noyes seeks to avoid) if an insufficient amount of time passes before movement in the backward direction.

Though the Examiner contends that the analysis is done after each scan, there is no indication whether this is in the forward or backward direction. The reference does not specify. However, the operation of the smear detector, as discussed above, would warrant the conclusion that any detection is done on a forward scan, due to possible smear occurring on the backward scan if such scan is done prematurely.

However, to the extent that Noyes includes a reader as claimed, there is no proper motivation to combine the references as alleged by the Examiner. The Examiner contends that it would be obvious to include two sensors in case only one is needed. However, if only one sensor is needed, then it would not be necessary to include the second sensor in the first instance. The motivation for the combination is improper. Even if the motivation to combine made any sense, the detector would not have to operate in the direction as claimed, but rather both sensors could work in a single scan direction. Therefore, claim 8 is patentable for all the above reasons. Claims 10 and 30 are patentable based on their dependency.

With further regard to claim 10, this claim describes density detection of a single pixel. As discussed above, the smear sensor of Noyes must work on a cumulative density output, which comprises several pixels and not a single pixel as claimed. Therefore, claim 10 is patentable for this additional reason.

Claims 13-15 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. '361) in view of Tanaka et al. (U.S. Patent No. '341). The rejection of

claim 13 is obviated by its cancellation. With regard to claims 14 and 15, these claims describe the positioning of the test pattern relative to various scan patterns. To the extent Tanaka teaches a test pattern, there is no further teaching that the test pattern is arranged at a lateral side of the row (claim 14) or at a downstream side of a row (claim 15). The positioning cannot inherently occur at the position indicated by both claims. Therefore, at a minimum, either claim 14 or 15 should be deemed allowable. However, due to the lack of positioning of the pattern in general, both claims should be allowed.

Claims 22 and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. '361) in view of Yamaguchi et al. (U.S. Patent No. '764).

Claims 22 and 34 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Schantz (U.S. Patent No. '720) in view of Yamaguchi et al. (U.S. Patent No. '764) and Suzuki (U.S. Patent No. '361).

With regard to the common rejection of claim 22 over Suzuki and Yamaguchi, the Examiner contends that it would be obvious to combine Suzuki and Yamaguchi because there would be a savings of paper resources. The Examiner, in the Response to Arguments (Detailed Action, page 5) contends that the saving of sheets can result from the reuse of paper. However, the reuse of the paper stems from the fact that in Yamaguchi, an error-containing sheets is replaced in the reproduction medium to correct errors. Because Suzuki already corrects for errors, there is no need to re-feed the paper to correct such density errors. Therefore, the Examiner's proffered motivation to combine Suzuki with Yamaguchi is not supportable.

Therefore, claim 22 is patentable, and claims 23 and 34 are patentable based on their dependency.

Claims 25 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. (U.S. Patent No. '361) in view of Ui et al. (U.S. Patent No. '984) in further view of Noyes et al. (U.S. Patent No. '022). Claim 25 describe detection of a borderline. The Examiner correctly concedes that this feature is not taught by Suzuki and cites Noyes, col. 15, lines 38-40) as teaching this feature. Detailed Action, page 26. However, col. 15 of Noyes relates to memory management. There is no teaching of border detection in Noyes. Therefore, claim 25 is patentable, and claim 26 is patentable based on its dependency.

Claim 33 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki et al. and Schantz as applied to claim 20, and in further view of applicant's admitted prior art.

This rejection is obviated by the cancellation of claim 33.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.114(c)
U.S. Appln. No. 09/855,943

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